

Unit 5 Worksheet 7 (Triangle Inequality)

Determine whether the given measures can be the lengths of the sides of a triangle. Write *yes* or *no*.

1. 9, 12, 18 $9+12 > 18$ YES
 $21 > 18$

2. 8, 9, 17 $8+9 > 17$ NO
 $17 \not> 17$

3. 14, 14, 19 $14+14 > 19$ YES
 $28 > 19$

4. 23, 26, 50 $23+26 > 50$ NO
 $49 \not> 50$

5. 32, 41, 63 $32+41 > 63$ YES
 $73 > 63$

6. 2.7, 3.1, 4.3 $2.7+3.1 > 4.3$ YES
 $5.8 > 4.3$

7. 0.7, 1.4, 2.1 $0.7+1.4 > 2.1$ NO
 $2.1 \not> 2.1$

8. 12.3, 13.9, 25.2 $12.3+13.9 > 25.2$ YES
 $26.2 > 25.2$

Find the range for the measure of the third side of a triangle given the measures of two sides.

9. 6 and 19 $13 < x < 25$

10. 7 and 29 $22 < x < 36$

11. 13 and 27 $14 < x < 40$

12. 18 and 23 $5 < x < 41$

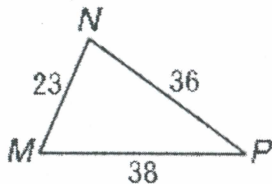
13. 25 and 38 $13 < x < 63$

14. 31 and 39 $8 < x < 70$

15. 42 and 6 $36 < x < 48$

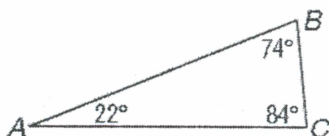
16. 54 and 7 $47 < x < 61$

17. Using $\triangle NMP$, list the angles in order from least to greatest



$\angle P$, $\angle M$, $\angle N$

18. Using $\triangle ABC$, list the sides in order from greatest to least.



\overline{BC} , \overline{AC} , \overline{AB}